



#### NOTES:

1. WHEN MACHINING VACUUM PARTS, USE OF SILICONE AND SULPHUR-BASED CUTTING FLUIDS IS PROHIBITED. USE ONE OF THE FOLLOWING:  
A) CIMCOOL 5 STAR 49  
B) TRIM SOL

2. ALL WELDS JOINING BELLOWS AND FLANGES ARE TO BE INTERNAL

3. BELLOWS ASSEMBLY SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2 X 10<sup>-10</sup> STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS

ALCATEL SAM-110TCL  
Du PONT CEC 24-120B  
VARIAN MS-9, MS-90 OR MS-18

CALIBRATION OF THE LEAK DETECTOR SENSITIVITY SHALL BE PERFORMED JUST PRIOR TO TESTING.

FINAL TEST WILL CONSIST OF SURROUNDING THE ASSEMBLY (BAGGING) WITH HELIUM. THE ASSEMBLY WILL BE REJECTED IF A 2% DEFLECTION ON THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.

4. KEEP THE PART CLEAN, AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.

5. DIMENSIONS IN [ ] ARE MILLIMETERS

#### REF. SOURCES

2 STANDARD BELLOWS CO.  
375 TUNPIKE AVE.  
WINDSOR LOCKS, CONN. 06096

1 MDC VACUUM PRODUCTS CORP.  
23842 CABOT BLVD.  
HAYWARD, CA. 94545-1651



3		ST'D. BELLOWS CAT. #350 - 250 - 8 - EE	WITH EXTENDED ENDS	1
2	MDC'S CAT. #100021	4.5" CF. ROTATABLE FLANGE		1
1	MDC'S CAT. #110018	4.5" CF. NONROTATABLE FLANGE		1
ITEM	DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY
<b>PARTS LIST</b> UNLESS OTHERWISE SPECIFIED LOG NUMBER ALL DIMENSIONS ARE IN INCHES TOLERANCES DECIMALS ANGULAR .X .03 (.7620) .25 ° .XX .01 (.025) .XXX .005 (.127) SURFACE ROUGHNESS 125 ✓ REMOVE ALL BURRS AND BREAK SHARP EDGES .03 MAX. SURFACE TEXTURE TO BE IN ACCORDANCE WITH LATEST ANSI B46.1 FINISHING & TOLERANCING IN ACCORDANCE WITH LATEST ANSI Y14.5 DO NOT SCALE DRAWING				
THIS DRAWING IS THE PROPERTY OF <b>ARGONNE NATIONAL LABORATORY</b> <b>ADVANCED PHOTON SOURCE</b> V2-78 WELDED BELLOWS ASSY 4.5" - 4.5" CF. 2.5" I.D. X 175mm				
DRAWN BY MUSCIA	DATE 2/17/98	CHIEF DESIGN ENGINEER D. SHU	DATE 2/18/98	TITLE ADVANCED PHOTON SOURCE
CHECKED BY D. SHU	DATE 2/18/98	GP LEADER T.M. KUZAY	DATE 2/18/98	V2-78 WELDED BELLOWS ASSY
DESIGNER D.SHU/MUSCIA	DATE 2/17/98	PROJECT MGR.		4.5" - 4.5" CF. 2.5" I.D. X 175mm
RESPONSIBLE ENGINEER D. SHU	DATE 2/18/98	APPROVE D/RELEASED		
MATERIAL SEE PARTS LIST				
SCALE HALF			SIZE C	DRAWING NUMBER V2-780000-00
SHEET 1 of 1				

SYN	CHANGE DESCRIPTION	BY	CHKD	DATE
	REVISIONS			